

Notice of Allowability

Application No.

10/764,459

Examiner

Shih-wen Hsieh

Applicant(s)

MIZUNO ET AL.

Art Unit

2861

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment dated april 28, 2006.
2. ☒ The allowed claim(s) is/are 1,3 and 5-19.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

Response to Amendment

1. Claims 1, 3 and 5-19 are allowed.

Conclusion

2. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

JP 404070351 A, "Ink jet printer" issued to Sato et al., March, 1992 teaches an ink supply and bubble removal system for an ink jet printer, which is very close to the instant application. Of the differences between Sato et al.'s invention and the instant application such as: wiping by a wiper after the vacuum of the ink is terminated recited in the instant application (which is a known feature in a head recovery process for an ink jet printer); the main difference is the pressurizing pump (28), which corresponds to the pressurized air generating device in the instant application is operated under a constant pressure level. Sato et al.'s pressurizing pump (28) does not teach two pressure levels P1 and P2 as recited in claims in the instant application. Other features of Sato et al. such as a suction pump (7, corresponding to ink vacuum device of the instant application) is operated in conjunction with the pressurizing pump (28) in a case when bubbles, etc. have become trapped in the interior of the head (1) and/or the interior of the buffer tank (2). Under such circumstances, the ink within the ink flow paths of the buffer tank (2) and head (1) become compressed (by the operation of the pressurizing

pump 28), as a result of this, the bubbles within the ink flow paths become contracted so to allow the ink to flow smoothly. In the meantime, print head is covered by the cap (4, part of the vacuum device), and the suction pump (7) is operated together with the operation of the pressurizing pump (28), then the compressed ink and the bubbles are discharged to a device outside the print head. This operation is generally called a push-and-pull in an ink jet head recovery process.

US 6,742,877, "Ink-jet recording apparatus" issued to Usui et al., 6/2004 teaches an air discharge tube, which surrounds an ink tube, which supplies ink to an ink jet head. A circular enclosed space is formed between the ink tube and the air discharge tube, and a pressure reducing device is connected to the enclosed space. Any air trapped in the ink tube can be sucked out of the ink tube through its wall by the function of the pressure reducing device.

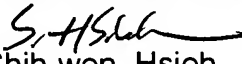
3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shih-wen Hsieh whose telephone number is 571-272-2256. The examiner can normally be reached on 7:30AM -5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, V. Patel can be reached on 571-272-2458. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

~~SHIH-WEN HSIEH~~
PRIMARY EXAMINER


Shih-wen Hsieh
Primary Examiner
Art Unit 2861

SWH



July 6, 2006

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